



ABSTRACT

An aluminum-based alloy having 6.5-7.5 wt.% silicon and 0.35-0.50 wt.% magnesium as the major alloying elements and a method of manufacturing an article from the alloy are disclosed. The alloy is characterized by a microstructure in which β phase (Al_5SiFe) that forms during heat treatment as a transformation product of π phase ($\text{Al}_8\text{Si}_5\text{Mg}_3\text{Fe}$) is the sole or predominant iron-containing phase in the alloy.

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